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10/599,368

09/27/2006

Kazuhide Kudo

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12/12/2008

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EXAMINER

DIBERNARDO, DAVID J

ART UNIT

PAPER NUMBER

4136

NOTIFICATION DATE

DELIVERY MODE

12/12/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/599,368	<b>Applicant(s)</b> KUDO ET AL.	
	<b>Examiner</b> David J. DiBernardo	<b>Art Unit</b> 4136	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/27/06 &amp; 9/19/07</u> .                                   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Preliminary Amendment***

1. Receipt is acknowledged of the preliminary amendment filed 27 September 2006.

### ***Specification***

2. The abstract of the disclosure is objected to because the abstract exceeds 150 words. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 18-22, 25-29 and 32-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Okura et al. (JP Patent No. JP 2000012377 A, from hereinafter “Okura”).

Regarding independent claim 18, Okura discloses alternately laminating the insulating layers (ceramic green sheet 11) and conductive pattern layers (electrode pattern 12) including conductive patterns which are formed at intervals therebetween in layer surface directions to form a laminate (lamination-compression-bonding object 14) in which laminate portions of electronic component-forming conductive patterns are collectively formed (First, as shown in drawing 3, the electrode printing sheet 13 is produced by printing two or more electrode patterns 12 of identical shape (rectangle) to matrix form on the ceramic green sheet 11 using a predetermined stencil. The

Art Unit: 4136

lamination-compression-bonding object (Mother lamination-compression-bonding object) 14 as shown in drawing 4(c) is produced by laminating and sticking by pressure the ceramic green sheet (cover sheet) in which conductive paste is not printed up-and-down both sides. This lamination-compression-bonding object 14 contains two or more ceramic devices 1; See ¶ [0024] & [0025], Fig. 4C);

applying a force to the laminate in a lamination direction to form an integrated laminate (The lamination-compression-bonding object (Mother lamination-compression-bonding object) 14 as shown in drawing 4(c) is produced by laminating and sticking by pressure the ceramic green sheet (cover sheet) in which conductive paste is not printed up-and-down both sides; See ¶ [0025], Fig. 4C);

after the force is applied to the laminate in the lamination direction to form the integrated laminate, cutting the laminate along cutting lines (cutting area Z-Z) provided along boundaries of the laminate portions of the electronic component-forming conductive patterns so as to separate electronic components (ceramic devices 1) from each other (This lamination-compression-bonding object 14 contains two or more ceramic devices 1, and the ceramic device 1 which constitutes the laminated ceramic capacitor of drawing 1 is obtained by cutting the part shown with the dashed line Z using a dicing saw, the cutting edge, etc.; See ¶ [0025], Fig. 4C);

forming at least one removal dummy pattern (straw-man electrode 10) in at least one of the conductive pattern layers which are to be laminated to each other before one of the insulating layers is provided on a surface of said at least one of the conductive pattern layers, the at least one removal dummy pattern (straw-man electrode 10) having

Art Unit: 4136

a size that allows it to be disposed within a cutting-removal region (cutting area Z-Z) which is a region to be cut and removed by the step of cutting the laminate (Namely, by cutting the lamination-compression-bonding object 14 in the position shown with the dashed line Z according to the method of this embodiment, the float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or more floating internal electrodes 6, and the straw-man electrode 10 are formed; See ¶ [0025], Fig. 4C); and

forming at least one floating dummy pattern (floating internal electrodes 6) in at least one of the conductive pattern layers of the laminate portions of the electronic component-forming conductive patterns so as to be disposed in the vicinity of an outside of the cutting-removal region at an interval therefrom before one of the insulating layers is formed by lamination on a surface of said at least one conductive pattern layer, the at least one floating dummy pattern (floating internal electrodes 6) not being electrically connected to the electronic component-forming conductive patterns (Namely, by cutting the lamination-compression-bonding object 14 in the position shown with the dashed line Z according to the method of this embodiment, the float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or more floating internal electrodes 6, and the straw-man electrode 10 are formed; See ¶ [0025], Fig. 4C).

Art Unit: 4136

Regarding claim 19, Okura discloses the at least one floating dummy pattern (floating internal electrodes 6) and the at least one removal dummy pattern (straw-man electrode 10) are disposed in at least one of the conductive pattern layers (float electrode layer B) so as to be adjacent to each other at an interval therebetween in a layer surface direction of said at least one of the conductive pattern layers, and electronic component-forming conductive patterns of said at least one of the conductive pattern layers, said at least one floating dummy pattern, and said at least one removal dummy pattern are formed from the same material and are also formed in the same step (First, as shown in drawing 3, the electrode printing sheet 13 is produced by printing two or more electrode patterns 12 of identical shape (rectangle) to matrix form on the ceramic green sheet 11 using a predetermined stencil. This electrode printing sheet 13 is shown in drawing 4(a) and (b) as much more it being alike, and , while shifting a position only one half of the allocation pitches of an electrode in the direction of a cash drawer of the cash-drawer electrode layer A. Namely, by cutting the lamination-compression-bonding object 14 in the position shown with the dashed line Z according to the method of this embodiment, the float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or more floating internal electrodes 6, and the straw-man electrode 10 are formed; See ¶ [0024] & [0025], Fig. 4C).

Regarding claim 20, Okura discloses one of the conductive pattern layers (cash drawer electrode layer A) is provided which does not include the at least one removal

Art Unit: 4136

dummy pattern at a position which is overlapped with that of the at least one removal dummy pattern of another one of the conductive pattern layers (float electrode layer B), at least one extension conductor (electrode 2a) is formed in said one conductive pattern layer from electronic component-forming conductive patterns thereof so as to intersect the cutting-removal region (cutting area Z-Z), and said at least one removal dummy pattern of said another conductive pattern layer and said at least one extension conductor of said one conductive pattern layer are provided at positions which are overlapped with each other (In the laminated ceramic capacitor of this embodiment, as shown in drawing 2, while making the same the interval G1 of each electrode, G2 and G3. The center section of each electrode 2a which constitutes the cash-drawer electrode layer A, 2b and the gap G1 between 2c. Since a center section and the center section of gap G3 between the electrode 6 which constitutes the float electrode layer B, and the straw-man electrode 10 of the gap G2 between each electrode 6 which constitutes the float electrode layer B set the same interval L in the direction of a cash drawer of the cash-drawer electrode layer A and are allocated. Drawing 4C clearly shows electrode 2a of cash drawer electrode layer A overlapping straw man electrode 10 in the cutting area Z-Z; See ¶ [0028], Fig. 4C).

Regarding claim 21, Okura discloses conductive patterns of one of the conductive pattern layers are provided, said one conductive pattern layer (cash drawer electrode layer A) having no floating dummy pattern at a position which is overlapped with that of the at least one floating dummy pattern (float electrode layer B) of another one of the conductive pattern layers, and the at least one floating dummy pattern of said

Art Unit: 4136

another conductive pattern layer and a portion of the conductive patterns of said one conductive pattern layer are provided at positions which are overlapped with each other (The float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or more floating internal electrodes 6, and the straw-man electrode 10 are formed. Drawing 4C clearly shows a non-floating cash-drawer electrode 2a overlapping an electrode contained in the float electrode layer B; See ¶ [0025], Fig. 4C).

Regarding claim 22, Okura discloses conductive patterns of one of the conductive pattern layers are provided, said one conductive pattern layer (cash drawer electrode layer A) having no floating dummy pattern at a position which is overlapped with that of the at least one floating dummy pattern (float electrode layer B) of another one of the conductive pattern layers, and the at least one floating dummy pattern of said another conductive pattern layer and a portion of the conductive patterns of said one conductive pattern layer are provided at positions which are overlapped with each other (The float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or more floating internal electrodes 6, and the straw-man electrode 10 are formed. Drawing 4C clearly shows a non-floating cash-drawer electrode 2a overlapping an electrode contained in the float electrode layer B; See ¶ [0025], Fig. 4C).



Regarding independent claim 25, Okura discloses conductive pattern layers (electrode patterns 12) having conductive patterns which are formed at intervals therebetween in layer surface directions (First, as shown in drawing 3, the electrode printing sheet 13 is produced by printing two or more electrode patterns 12 of identical shape (rectangle) to matrix form on the ceramic green sheet 11 using a predetermined stencil. The lamination-compression-bonding object (Mother lamination-compression-bonding object) 14 as shown in drawing 4(c) is produced by laminating and sticking by pressure the ceramic green sheet (cover sheet) in which conductive paste is not printed up-and-down both sides. This lamination-compression-bonding object 14 contains two or more ceramic devices 1; See ¶ [0024] & [0025], Fig. 4C); and

insulating layers (ceramic green sheet 11) which are alternately arranged with the conductive pattern layers to form a laminate (lamination-compression-bonding object 14) in which laminate portions of electronic component-forming conductive patterns are collectively provided, the laminate being arranged to be cut along cutting lines provided along boundaries of the laminate portions of the electronic component-forming conductive patterns so as to separate the electronic components from each other (First, as shown in drawing 3, the electrode printing sheet 13 is produced by printing two or more electrode patterns 12 of identical shape (rectangle) to matrix form on the ceramic green sheet 11 using a predetermined stencil. The lamination-compression-bonding object (Mother lamination-compression-bonding object) 14 as shown in drawing 4(c) is produced by laminating and sticking by pressure the ceramic green sheet (cover sheet) in which conductive paste is not printed up-and-down both

Art Unit: 4136

sides. This lamination-compression-bonding object 14 contains two or more ceramic devices 1, and the ceramic device 1 which constitutes the laminated ceramic capacitor of drawing 1 is obtained by cutting the part shown with the dashed line Z using a dicing saw; See ¶ [0024] & [0025], Fig. 4C); wherein

in at least one of the conductive pattern layers, at least one removal dummy pattern (straw-man electrode 10) is provided and has a size that allows it to be disposed within a cutting-removal region (cutting area Z-Z) which is to be cut away along the cutting lines (Namely, by cutting the lamination-compression-bonding object 14 in the position shown with the dashed line Z according to the method of this embodiment, the float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or more floating internal electrodes 6, and the straw-man electrode 10 are formed; See ¶ [0025], Fig. 4C); and

in at least one conductive pattern layers of the laminate portions of the electronic component-forming conductive patterns, at least one floating dummy pattern (floating internal electrodes 6) which is not electrically connected to the electronic component-forming conductive patterns is provided in the vicinity of the outside of the cutting-removal region at an interval therefrom (Namely, by cutting the lamination-compression-bonding object 14 in the position shown with the dashed line Z according to the method of this embodiment, the float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or

Art Unit: 4136

more floating internal electrodes 6, and the straw-man electrode 10 are formed; See ¶ [0025], Fig. 4C).

Regarding claim 26, Okura discloses the at least one floating dummy pattern (floating internal electrodes 6) and the at least one removal dummy pattern (straw-man electrode 10) are disposed in at least one of the conductive pattern layers (float electrode layer B) so as to be adjacent to each other at an interval therebetween, and electronic component-forming conductive patterns of said at least one of the conductive pattern layers, said at least one floating dummy pattern, and said at least one removal dummy pattern are formed from the same material (First, as shown in drawing 3, the electrode printing sheet 13 is produced by printing two or more electrode patterns 12 of identical shape (rectangle) to matrix form on the ceramic green sheet 11 using a predetermined stencil. This electrode printing sheet 13 is shown in drawing 4(a) and (b) as much more it being alike, and , while shifting a position only one half of the allocation pitches of an electrode in the direction of a cash drawer of the cash-drawer electrode layer A. Namely, by cutting the lamination-compression-bonding object 14 in the position shown with the dashed line Z according to the method of this embodiment, the float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or more floating internal electrodes 6, and the straw-man electrode 10 are formed; See ¶ [0024] & [0025], Fig. 4C).

Art Unit: 4136

Regarding claim 27, Okura discloses in at least one of other conductive pattern layers (cash drawer electrode layer A) having no removal dummy pattern at a position which is overlapped with at least one removal dummy pattern of one of the conductive pattern layers (float electrode layer B), at least one extension conductor (electrode 2a) is arranged to extend from electronic component-forming conductive patterns of said at least one of other conductive pattern layers to intersect the cutting-removal region (cutting area Z-Z), and said at least one removal dummy pattern of said one conductive pattern layer and said at least one extension conductor of said at least one of other conductive pattern layers are provided at positions which are overlapped with each other (In the laminated ceramic capacitor of this embodiment, as shown in drawing 2, while making the same the interval G1 of each electrode, G2 and G3. The center section of each electrode 2a which constitutes the cash-drawer electrode layer A, 2b and the gap G1 between 2c. Since a center section and the center section of gap G3 between the electrode 6 which constitutes the float electrode layer B, and the straw-man electrode 10 of the gap G2 between each electrode 6 which constitutes the float electrode layer B set the same interval L in the direction of a cash drawer of the cash-drawer electrode layer A and are allocated. Drawing 4C clearly shows electrode 2a of cash drawer electrode layer A overlapping straw man electrode 10 in the cutting area Z-Z; See ¶ [0028], Fig. 4C).

Regarding claim 28, Okura discloses in at least one of other conductive pattern layers (cash drawer electrode layer A) having no floating dummy pattern at a position which is overlapped with the at least one floating dummy pattern (float electrode layer

Art Unit: 4136

B) of one of the conductive pattern layers, a portion of electronic component-forming conductive patterns of said at least one of other conductive pattern layers is disposed at a position which is overlapped with that of said at least one floating dummy pattern of said one conductive pattern layer (The float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or more floating internal electrodes 6, and the straw-man electrode 10 are formed. Drawing 4C clearly shows a non-floating cash-drawer electrode 2a overlapping an electrode contained in the float electrode layer B; See ¶ [0025], Fig. 4C).

Regarding claim 29, Okura discloses in at least one of other conductive pattern layers (cash drawer electrode layer A) having no floating dummy pattern at a position which is overlapped with the at least one floating dummy pattern (float electrode layer B) of one of the conductive pattern layers, a portion of electronic component-forming conductive patterns of said at least one of other conductive pattern layers is disposed at a position which is overlapped with that of said at least one floating dummy pattern of said one conductive pattern layer (The float electrode layer B which the cash-drawer electrode layer A which consists of the 1<sup>st</sup> and the 2<sup>nd</sup> cash-drawer electrode 2a, 2b, and the floating internal electrodes 2c is formed from the electrode pattern 12, and consists of two or more floating internal electrodes 6, and the straw-man electrode 10 are formed. Drawing 4C clearly shows a non-floating cash-drawer electrode 2a overlapping an electrode contained in the float electrode layer B; See ¶ [0025], Fig. 4C).

Regarding independent claim 32, Okura discloses conductive pattern layers (electrode pattern 12); and

insulating layers (ceramic green sheet 11) which are alternately arranged with the conductive pattern layers (electrode pattern 12) to form a laminate (lamination-compression-bonding object 14) in which the conductive pattern layers are integrally laminated to each other (First, as shown in drawing 3, the electrode printing sheet 13 is produced by printing two or more electrode patterns 12 of identical shape (rectangle) to matrix form on the ceramic green sheet 11 using a predetermined stencil. The lamination-compression-bonding object (Mother lamination-compression-bonding object) 14 as shown in drawing 4(c) is produced by laminating and sticking by pressure the ceramic green sheet (cover sheet) in which conductive paste is not printed up-and-down both sides. This lamination-compression-bonding object 14 contains two or more ceramic devices 1; See ¶ [0024] & [0025], Fig. 4C); wherein

in at least one of the conductive pattern layers, at least one floating dummy pattern (electrode 32a, 32b) which is not electrically connected to a corresponding conductive pattern is disposed in a region between an end surface of said at least one of the conductive pattern layers and the conductive pattern at an interval therefrom so as not to be exposed at the end surface of said at least one of the conductive pattern layers (Drawing 5c shows electrode 32b disposed in the vicinity of the cutting area Z. Once the device 1 has been cut along cutting area Z, floating dummy electrode 32a is completely removed as shown by the resulting device in drawing 7; See Fig. 5C & 7).

Regarding claim 33, Okura discloses the conductive pattern layers (cash drawer electrode layer A) include extension conductors (electrode 2a) which extend from the conductive patterns to end surfaces of the conductive pattern layers (float electrode layer B), conductive pattern layers having extension conductors provided at positions different from each other are included in the conductive pattern layers, and of the conductive pattern layers having extension conductors provided at positions different from each other, in a region of one of the conductive pattern layers in which no floating dummy pattern is provided and which is overlapped with a region of another one of the conductive pattern layers in which at least one extension conductor is provided, the at least one floating dummy pattern is provided (In the laminated ceramic capacitor of this embodiment, as shown in drawing 2, while making the same the interval G1 of each electrode, G2 and G3. The center section of each electrode 2a which constitutes the cash-drawer electrode layer A, 2b and the gap G1 between 2c. Since a center section and the center section of gap G3 between the electrode 6 which constitutes the float electrode layer B, and the straw-man electrode 10 of the gap G2 between each electrode 6 which constitutes the float electrode layer B set the same interval L in the direction of a cash drawer of the cash-drawer electrode layer A and are allocated. Drawing 4C clearly shows electrode 2a of cash drawer electrode layer A overlapping straw man electrode 10 in the cutting area Z-Z; See ¶ [0028], Fig. 4C).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 4136

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 23-24, 30-31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okura in view of Kitamura (U.S. Patent Application Publication No. 2002/0093415 A1, from hereinafter "Kitamura"). The teachings of Okura have been discussed above.

Regarding claims 23 and 30, Okura fails to teach the conductive pattern layers and the insulating layers are formed using a photolithographic technique.

Kitamura teaches the conductive pattern layers and the insulating layers are formed using a photolithographic technique (The insulating layers may be formed by techniques associated with photolithography, or printing, or the like. These techniques include spin coating, dip coating, spray coating, transfer coating, and the like. An Ag film having a thickness of from 1 to 10  $\mu\text{m}$  is deposited on a surface of an insulating layer 33A according to, e.g., a sputtering process, and is patterned in a spiral shape according to photolithography techniques, thereby forming a primary coil electrode 32; See ¶ [0032] & [0033]).

In view of the teaching of Kitamura it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the use of photolithographic techniques in order to form insulating and conductive layers because these techniques are readily available in fabrication sites and are easily adaptable to this lamination application. It would have been obvious to combine the teachings of Okura and Kitamura because Kitamura discloses manufacturing a choke coil such that alternating



Art Unit: 4136

conducting and insulating layers are laminated together to form a device structure in much the same way as Okura and the present application.

Regarding claims 24, 31 and 34, Okura fails to teach the electronic component-forming conductive patterns have a coil pattern shape, and the electronic component is a coil component.

Kitamura teaches the electronic component-forming conductive patterns have a coil pattern shape, and the electronic component is a coil component (Referring to Figs. 1 through 3 illustrating an embodiment of the present invention, a laminated common-mode choke coil generally indicated by 30 comprises a laminated structure formed of a pair of magnetic substrates 31 and 37, and a plurality of insulating layers 33A, 33 and 35 laminated between the substrates 31 and 37. An Ag film having a thickness of from 1 to 10  $\mu\text{m}$  is deposited on a surface of an insulating layer 33A according to, e.g., a sputtering process, and is patterned in a spiral shape according to photolithography techniques, thereby forming a primary coil electrode 32; See ¶ [0032] & [0033]).

In view of the teaching of Kitamura it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the coil electrode as taught by Kitamura because coiled structures are commonly fabricated by the lamination method. This method can be used to produce a wide variety of structures and devices. It would have been obvious to combine the teachings of Okura and Kitamura because Kitamura discloses manufacturing a choke coil such that alternating conducting and insulating layers are laminated together to form a device structure in much the same way as Okura and the present application.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. DiBernardo whose telephone number is (571)270-7436. The examiner can normally be reached on Monday through Friday from 8:30am to 6:00pm with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lisa M. Caputo can be reached on (571)272-2388. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. J. D./  
Examiner, Art Unit 4136

/Lisa M. Caputo/  
Supervisory Patent Examiner, Art Unit 4136